

WHAT IS CLAIMED IS:

1. A process for wet-chemical treatment of silicon using an etching liquid that contains water, nitric acid and hydrofluoric acid, the process comprising:

activating the etching liquid by introducing nitrogen oxide ( $\text{NO}_x$ ) into the etching liquid before being used for the wet-chemical treatment of silicon.

2. The process as claimed in claim 1, wherein the nitrogen oxide ( $\text{NO}_x$ ) is selected from the group consisting of nitrogen monoxide ( $\text{NO}$ ), nitrogen dioxide ( $\text{NO}_2$ ), dinitrogen tetroxide ( $\text{N}_2\text{O}_4$ ) and mixtures thereof.

3. The process as claimed in claim 1, wherein the nitrogen oxide ( $\text{NO}_x$ ) is introduced until the etching liquid is saturated with the nitrogen oxide.

4. The process as claimed in claim 1, wherein the nitrogen oxide ( $\text{NO}_x$ ) is generated during a wet-chemical treatment of silicon with an etching liquid in a first vessel, the etching liquid containing water, nitric acid and hydrofluoric acid, and wherein the nitrogen oxide ( $\text{NO}_x$ ) that is formed is discharged from the first vessel and introduced into a second vessel that holds fresh etching liquid also containing water, nitric acid and hydrofluoric acid, in order

to activate the fresh etching liquid.

5. The process as claimed in claim 4, wherein the nitrogen oxides ( $\text{NO}_x$ ) which are formed during the wet-chemical treatment are extracted from the first vessel by a pump and are pumped into the second vessel.

6. The process as claimed in claim 4, wherein the nitrogen oxides ( $\text{NO}_x$ ) which are discharged from the first vessel are fed into a circuit through which the fresh etching liquid is circulated by means of a pump.

7. The process as claimed in claim 1, wherein the wet-chemical treatment relates to single-crystalline silicon wafers.

8. A device for the wet-chemical treatment of silicon wafers, comprising:

a) a first vessel in which silicon is subjected to a wet-chemical treatment with the aid of an etching liquid that contains water, nitric acid and hydrofluoric acid;

b) a second vessel, in which fresh etching liquid is held ready, and

c) a connecting line between the first vessel and the second vessel, through which nitrogen oxides ( $\text{NO}_x$ ) which are formed in the first vessel during the wet-chemical

treatment are passed to the second vessel.

9. The device as claimed in claim 8, further comprising a circuit through which the fresh etching liquid is circulated by means of a pump, connecting the first vessel and the circuit.

10. The device as claimed in claim 9, further comprising a pump that sucks nitrogen oxides ( $\text{NO}_x$ ) out of the first vessel and feeds them into the circuit.